

Oldfeltia, a new genus of the Compositae-Senecioneae from Cuba

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Abstract

The new monotypic genus *Oldfeltia* B. NORD. & LUNDIN (Compositae-Senecioneae) is described from the Oriente of Cuba, based on *Senecio polyphebius* GRISEB., a species which has hitherto been misplaced in *Senecio* and *Pentacalia*.

Introduction

The large and almost cosmopolitan tribe Senecioneae is represented in Cuba by about 25 species, most of which have in the past been placed in the over-expanded genus *Senecio* (e.g., GRISEBACH 1862, GREENMAN 1912, ALAIN 1962). A few species are firmly placed in *Erechtites*, *Emilia* and *Shafera*, which are clearcut genera with no problems of delimitation. Those still remaining in *Senecio* (or transferred to *Pentacalia*, cf. below) present more serious problems as regards generic position.

We have studied some of the species on field trips to Cuba in 1995 as well as material in Cuban herbaria (HAC, HAJB; abbreviations in accordance with HOLMGREN et al. 1990).

In Flora de Cuba vol. 5 (ALAIN 1962) 21 species of *Senecio* are listed, all shrubs or small trees plus a few vines, and in addition the widespread weed *S. vulgaris*, which is an annual herb and the type of the genus. The latter is the only Cuban species which can be retained in *Senecio*. Of the others, 13 species have been tentatively transferred to *Pentacalia* CASS. (PROCTOR 1982, BORHIDI 1992), where they are not well placed. Instead, they will have to be referred to a couple of different genera in need of description. This work is ongoing by one of us (B.N.). In the present paper we only deal with one species, which we distinguish as a new monotypic genus. We propose the name *Oldfeltia*, in appreciation of the dedicated work of Mrs. KARIN OLDFELT as Swedish Ambassador to Cuba in 1991 to 1995. Her love for Cuban nature is manifested in her works of art as well as her encouragement and assistance to natural scientists visiting the island during her sejour on the island.

Senecio polyphlebius GRISEB. was one of several species transferred by BORHIDI (1992) to *Pentacalia*. The latter is a large Andean genus of lianescent or epiphytic shrubs with scattered alternate or opposite leaves. As understood by some authors in a wider sense, *Pentacalia* includes subgenus *Microchaete*, a large group of erect shrubs or shrublets with usually closely set and often small leaves, and a characteristic element of the páramo vegetation, reaching its northern limit in the small páramo refuges of Costa Rica. However, this group is often separated as genus *Monticalia* C. JEFFREY. The Cuban species are not sufficiently allied to these two genera to be included in any of them.

In ALAIN's key to the species of *Senecio* (ALAIN 1962), *S. polyphlebius* is wrongly characterized as having radiate capitula. In the text, however, the florets are correctly described as "flores 5–6, todas tubulares", in other words the capitula are discoid. This species has a number of other characteristics suggesting the status of a separate genus. It is a shrub with large undivided leaves with distinctly serrate or denticulate margins. The discoid capitula are numerous and massed in terminal panicle-corymbose synflorescences. The involucre is unusual, being cylindrical and pale whitish-green with closely connivent phyllaries. The anthers are shortly caudate. The style branches have conical or triangular tips with clavate papillae and sometimes a minute apical tuft of a few longer trichomes.

Description

Oldfeltia B. NORD. & LUNDIN, **gen. nov.** (Compositae-Senecioneae)

Syn.: *Senecio* L. Sect. *Syllepsis* GRISEB., Mem. Acad. Amer. Scient. et Artium, N. Ser. 8: 515, 1862.

Type: *O. polyphlebia* (GRISEB.) B. NORD. & LUNDIN; *Senecio polyphlebius* GRISEB., l.c.

Frutex erectus ramosus glaber. Folia alterna basi sensim in petiolum attenuata integra oblanceolata vel oblongo-obovata herbacea acuminata arcte pinnativenosa venis divaricatis, margine distincte serrulato-denticulata. Capitula numerosa homogama discoidea cymosa, cymis in synflorescentiam terminalem corymbiformem dispositis. Involucrum cylindricum viridi-album glabrum minute paucicalyculata; bracteis 5 uniseriatis lanceolatis praeter apices deltoideos arcte conniventibus sed post anthesin divergentibus. Receptaculum planum breviter fimbriato-denticulatum. Flosculi disci hermaphroditi 5–6; corolla flava tubulosa sensim ampliata quinquelobata, lobis lanceolatis canalibus resiniferis medianis instructis apice minute papillatis. Antherae basi caudatae; cellulae endothecii parietibus verticalibus noduliferis; filamentum collum basi dilatatum. Styli rami apice obtuse conici papillati, dorso hirsutuli, areis stigmaticis separatis. Cypselae oblongae glabrae decemcostatae, carpopodio

distincto. Pappi setae numerosae pluriseriatae albae vel fulvae minute barbellatae basi connatae persistentes.

When describing the species GRISEBACH (1862) placed it in a section of its own, which he named *Senecio* sect. *Syllepis*, stressing the discoid capitula and the “involucris squamis connatis”. The single species is described in some more detail below.

***Oldfeltia polyphlebia* (GRISEB.) B. NORD. & LUNDIN, comb. nov. – Fig. 1.**

Basionym: *Senecio polyphlebius* GRISEB., Mem. Acad. Amer. Scient. et Artium, N. Ser. 8 : 515, 1862.

Syn.: *Pentacalia polyphlebia* (GRISEB.) BORHIDI, Acta Bot. Hung. 37: 89, 1992.

Type: WRIGHT 329, prope Monte Verde, secus ripas rivulorum in sylvis opacas (n.v.).

Erect branching glabrous shrub or small tree 2–6 m high. Stems ribbed or angular, up to 20 cm in diam. Leaves alternate, crowded toward the branch ends, undivided, oblanceolate to oblong-obovate, petiolate or tapering to a petioliform narrow base (petiole 1–5 cm long), 10–50 cm long, 4–8 cm wide, flat, herbaceous, distinctly midribbed and with numerous lateral pinnate veins, margins distinctly serrate to serrulate-denticulate. Capitula numerous, cymose-corymbose in terminal synflorescences, homogamous, discoid. Involucre cylindrical, glabrous, minutely calyculate; involucre bracts uniseriate, 5, closely connivent but separating after anthesis, narrowly oblong, 5.5–9 mm long, 1.5–2.5 mm wide, 5–7-veined, pale yellowish or whitish-green with thinner pellucid margins, somewhat thickened basally, tips deltoid, obtuse or subacute and minutely puberulous-fimbriate. Calyculus bracts 3–5, ovate-deltoid, 1–1.5 mm long, 0.5–1 mm wide. Receptacle flat, shortly fimbriate-denticulate. Florets 5–6; corolla yellow, tubular below, gradually widening above, 5–6 mm long, glabrous, 5-lobed, tube basally somewhat dilated, lobes narrowly oblong-lanceolate, 1.5–2 mm long, with marginal veins and a distinct to faint midline, apically thickened (subcucullate) and minutely papillate. Anthers ca. 2 mm long incl. the oblong-ovate obtuse apical appendage; endothecial tissue radial (with thickenings on longitudinal walls); base shortly caudate (tails ca. 1/2 collar length); filament collar somewhat dilated towards the base with larger cells. Style branches linear, ca. 2 mm long, with separated stigmatic areas inside, outside minutely scabrid-papillate, apex obtusely conical with clavate papillae and sometimes a small apical tuft centrally; style base placed on a short stylopodium. Cypsela narrowly oblong, 4–7 mm long, glabrous, with 10 nerves and 10 resiniferous ducts; carpodium distinct, of 5–7 cell layers. Pappus bristles numerous, pluriseriate, 5–7 mm long, slender, white or tawny, minutely barbellate, basally connate, persistent.

Flowering period: Febr.–May.

Collections examined:

Cuba. Prov. Holguin, Moa, in disturbed montane evergreen forest, along road Moa–Melba, 30 km from Moa, alt. 450 m, 1995, NORDENSTAM & LUNDIN 337 (HAC, NY, S), NORDENSTAM & LUNDIN 340 (HAC, HAJB, K, NY, S), NORDENSTAM & LUNDIN 341 (HAC, HAJB, K, NY, S); Prov. Holguin; Moa, Sierra de Moa, along road Moa–Toldo, 400–500 m, 1987, A. CLARO, HAJB 62122 (HAJB); Prov. Holguin, Frank País, Alto de Mono 1987, M. BASSLER et al. HAJB 60766 (HAJB); Prov. Holguin, Moa, La Melba, 450–500 m, 1980, A. ALVAREZ et al. HAJB 42403 (HAJB); Prov. Holguin, Moa, Cayo Guan, 1975, J. ACUÑA HAC 12776 (HAC); Prov. Oriente, Sierra de Cristal, Valle del Río Lebisa, Fea del Alcóa, 850 m, 1976, BORHIDI & VALEZ HAC 14496 (HAC); Prov. Oriente, Southern part of Sierra del Cristal, Mayarí, 1956, H. ALAÍN, J. ACUÑA & M. LÓPEZ FIGUEIRAS HAC 5509 (HAC); Prov. Oriente, Sierra de Cristal, gulch of Río Lebisa, 600 m, 1922, E. L. EKMAN 15941 (S, NY); Prov. Oriente, Palenque: Cuchillas de Toa, Cayo Fortuna, 1972, J. BISSE, R. BERAZÁIN & H. LIPPOLD HAJB 22811 (HAJB); Prov. Oriente, Sierra de la Iberia, Taco Bay, O. de Baracoa, 1960, M. LÓPEZ FIGUEIRAS 604 U. O, 622 U. O. (HAC); Prov. Guantánamo, Baracoa, Meseta de la Iberia, 700 m, 1985, A. ALVAREZ et al. HAJB 55911 (HAJB); Prov. Guantánamo, Imías, La Yamagua, 750–850 m, 1984, J. BISSE et al. HAJB 52849 (HAJB); Prov. Santiago de Cuba, Segundo Frente, between el Halcón and Batista, 1985, A. ALVAREZ et al. HAJB 57424 (HAJB).

Oldfeltia is apparently endemic to eastern Cuba (Oriente), where it is found in submontane and montane habitats such as evergreen forest, 'pluvilsilva' or 'bosque humedo', on lateritic soil according to some collectors, and at altitudes between 400 and 850 m s.m. We noted that the flowerheads emit a distinct honey-like scent.

Discussion

The new genus resembles some other large-leaved erect shrubby Senecioneae of the Neotropics, such as *Dendrophorbium* C. JEFFREY, *Jessea* H. ROB. & CUATREC., *Odontocline* B. NORD. and *Jacmaia* B. NORD. *Oldfeltia* is however distinct from all of these by the combination of characters such as the pale greenish involucre with initially connate phyllaries, the discoid capitula, the conical papillate tips of style branches, the caudate anthers, and the 10-costate cypselas also provided with 10 resiniferous ducts.

Dendrophorbium is a South American genus with ca. 75 species in the Andean regions. Typically its members have radiate capitula, truncate style branches with apical sweeping-hairs, ecaudate anther base, and 5-ribbed or 5-angled cypselas. Such cypselas also characterize the genera *Pentacalia* and *Monticalia*, which are both Andean, the latter reaching its northern limit in the páramo refuges of Costa Rica.

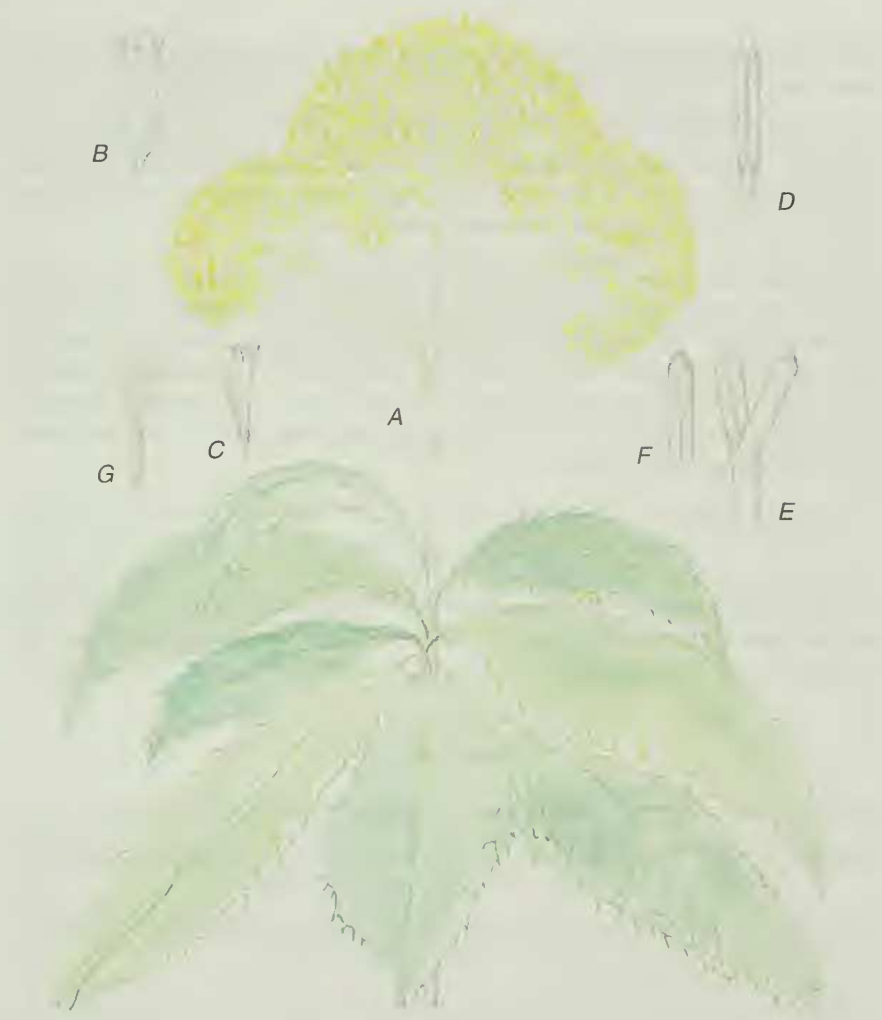


Fig. 1. *Oldfeltia polyphlebia* (GRISEB.) B. NORD. & LUNDIN.

- A. Habit, $\times \frac{1}{2}$.
- B. Involucre, $\times 2$.
- C. Floret, $\times 2$.
- D. Stamen, $\times 10$.
- E. Style branches, $\times 8$.
- F. Style branch, inside, $\times 8$.
- G. Cypsela, $\times 1.5$.

K. OLDFELT pinx., B. NORDENSTAM del. (NORDENSTAM & LUNDIN 340 in S).

Both differ considerably in habit from *Oldfeltia*, the former comprising epiphytes and vines, the latter erect shrubs or shrublets with small and closely set leaves.

Jessea with four species is confined to Costa Rica and Panama (NORDENSTAM 1996). They all resemble *Oldfeltia* in habit, but have radiate capitula very densely massed, conical style branches with sweeping-hairs and a distinct central hair tuft, ecaudate anthers, and different cypselas (see further NORDENSTAM 1996).

Odontocline and *Jacmaia* are both endemic to Jamaica (NORDENSTAM 1978). They have radiate capitula, continuous stigmatic areas of style branches, and distinct processes on the receptacle. Both differ significantly in style morphology from *Oldfeltia*. In the monotypic *Jacmaia* the style branch has an elongated acuminate appendage (which caused some authors in the past to refer it to *Gynoxys*). Styles of *Odontocline* have an obtuse nude appendage laterally surrounded by sweeping-hairs (see further NORDENSTAM 1978).

Acknowledgements

We thank the Curators of HAC and HAJB for their courtesy during our study visits and the loan of herbarium material. Mrs. KARIN OLDFELT is heartily thanked for her watercolour of *Oldfeltia*.

References

- ALAIN, H. 1962. *Flora de Cuba*, Tomo V. Univ. de Puerto Rico, Rio Pedras.
- BORHIDI, A. 1992. New names and new species in the flora of Cuba and Antilles, IV. *Acta Bot. Hung.* 37: 75–90. (Probably printed in 1994).
- GREENMAN, J. M. 1912. New species of Cuban Senecioneae. *Field Mus. Nat. Hist., Bot. Ser.* 2: 323–328.
- GRISEBACH, A. 1862. Plantae Wrightianae, e Cuba Orientali, Pars II. *Mem. Acad. Amer. Scient. et Artium*, N. Ser. 8: 503–536.
- HOLMGREN, P.K., HOLMGREN, N.H. & L.C. BARNETT 1990. *Index Herbariorum. Part I, The Herbaria of the World*, 8th ed. Regnum Veg. 120.
- NORDENSTAM, B. 1978. Taxonomic studies in the tribe Senecioneae (Compositae). *Opera Bot.* 44: 1–83.
- NORDENSTAM, B. 1996. *Jessea gunillae* B. NORD. (Compositae-Senecioneae), a new species from Costa Rica. *Bot. Jahrb. Syst.* 118: 147–152.
- PROCTOR, G. R. 1982. More additions to the flora of Jamaica. *J. Arnold Arbor.* 63: 199–315.